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Buffalo, Department of Health

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The cost of tuberculosis to the  
county of Erie.

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# The Cost of Tuberculosis to the County of Erie

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FRANCIS E. FRONCZAK, M. D.,  
Health Commissioner.

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# The Cost of Tuberculosis to the County of Erie.

(A study based upon the conclusions of Irving Fisher,  
Chairman of the Committee of One Hundred  
on National Health.)

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## I. THE COST IN LIVES.

In the year 1909, the deaths in Erie County from tuberculosis were in excess of seven hundred; from pulmonary tuberculosis, there were 632 deaths; from all other forms of tuberculosis, about 120; making in all 752 deaths as the harvest from this disease in one year.

(Figures on pulmonary tuberculosis from the State Department of Health.—Non-pulmonary deaths are an estimate based upon usual percentage found, as State Department of Health had no classified figures on non-pulmonary forms for Erie County only.)

There is much reason for believing that a large number of deaths recorded as pneumonia, etc., are due to tuberculosis.

The depleting influence of tuberculosis can be discerned in the fact that, unlike other diseases, it takes its victims at their most productive and most hopeful time of life. Then, again, to quote Prof. Fisher, "Deaths from tuberculosis among such classes as are chiefly a burden—paupers, criminals and defective classes in penal institutions, reformatories and poor houses—is extremely small." In short, not only does the largest percentage of these deaths come in the productive years of life, but among the industrious, the most self-sacrificing and self-respecting citizens of the community. Tuberculosis takes those who are the most worthy and not the vicious. The least useful do not suffer so much as those whom every

community would be glad to preserve and keep with them. A well-known writer says: "Consumption is the most certain of the afflictions of the poor. It is tuberculosis that keeps the lives of the poor, like their annals, short."

In the report of the Committee of One Hundred on National Health, prepared by the National Conservation Commission, Professor Irving Fisher, the Chairman of that Committee, asserted that from the most conservative point of view 75 per cent. of the deaths from tuberculosis could be prevented. Many others assert that 90 per cent. of the cost of tuberculosis can be prevented.

Professor Fisher, considering that the deaths occur in the earlier years of life, concludes that the eradication of tuberculosis would save on an average at least twenty-four years for each person who now falls victim. This is making what appears to be a very generous allowance for the fact that the lives saved are weak.

Allowing for the proportion of the years now devoted to productive labor, Professor Fisher concludes further, "That the working period lost by death is at least seventeen years for each dying consumptive;" but assuming we could extend the lives of those now dying of tuberculosis fifteen years, what an enormous gain would result!

## II. COST IN DISABILITY.

Dr. Marshall L. Price of Baltimore, now Secretary of the State Board of Health, in the intensive "Study of the Economic Course of Consumption in Wage-Earners," says that deaths among several hundred workers in Maryland were preceded by an average period of one year and six months of total disability, following a previous period of one year and seven months of partial disability, during which the workman was able to earn about half wages.

Dr. Fisher concludes that the estimate of three years and one month made by Dr. Price is extremely conservative, and could, without exaggeration, be said to be four years of disability.

### III. COST IN UNHAPPINESS.

In addition to the cost of lives and disability, there is to be considered the cost in disappointment and unhappiness, not alone of the consumptive, but of his family and friends—the cost of human misery. Who can measure the fathomless cost due to this cause? While it cannot be measured in terms of money, it is surely a cost that ought to be the concern of every human being whose heart beats in sympathy with the suffering.

### IV. COST IN MONEY.

Following a long discussion of this phase of the subject, Dr. Fisher concludes that the most conservative estimate that can be placed upon the economic loss of the community from the death of each consumptive is \$8,000.00. Some authorities place it higher, some lower, but to fall well within safe figures, let us take the extremely cautious estimate of \$5,000.00.

The deaths in Erie County in 1909 from tuberculosis in all its phases were over 750, but for the sake of easier computation we will take 750 in round numbers. Taking the conservative figure of \$5,000.00, although some say it might well be calculated, by considering all the items involved, as high as \$11,500.00, we find that the annual waste to the County in the economic loss is \$3,750,000.00.

In a period of ten years, which is a very short time in the life of an institution like a hospital, this loss will amount up to the stupendous sum of \$37,500,000.00. If the yearly death rate were

reduced ten per cent., there would be a saving to the County of \$3,750,000.00 in ten years. If twenty per cent., the saving would be \$7,500,000.00. If twenty-five per cent., there would be a saving in ten years of \$11,250,000.00, and if of forty per cent., there would be a saving of \$15,000,000.00; and if the death rate could be decreased seventy-five per cent., which Dr. Fisher concluded would be a conservative estimate as to the preventable deaths from this disease, the saving to the County would be \$28,125,000.00 in ten years, or \$2,812,500 every year.

These figures are not fanciful, but the conclusions of a hard-headed, practical student whose every-day work makes him familiar with the subject he discusses. These conclusions are based upon the capitalized value of the economic loss due to the early death of a life which by preventable measures could be prolonged.

## LOSS TO THE CONSUMPTIVE.

Dr. Fisher further divides his economic loss by reason of the death of each consumptive into two parts.

First, into the loss to the consumptive himself, 60 per cent.; and

Second, into the loss to others than the consumptive by reason of his death, 40 per cent.

First, in relation to the consumptive, taking our 750 as the number of deaths in the County every year, and 60 per cent. of \$5,000.00 or \$3,000.00 as the loss to the individual himself, we find that the yearly loss to the consumptives themselves is \$2,250,000.00, or, for a period of ten years, \$22,500,000.00.

Decreasing the death rate 10 per cent., then, would amount to a saving of \$2,250,000.00 for a period of ten years.

Decreasing the death rate 20 per cent. would amount to a saving to the consumptives themselves of \$450,000.00 annually, or \$4,500,000.00 for a period of ten years.

Decreasing the annual death rate 25 per cent. would amount to a saving to the consumptives themselves of \$562,500.00 annually, or \$5,625,000.00 in ten years.

Decreasing the death rate 40 per cent. would amount to a saving to the consumptives themselves of \$900,000.00 yearly, or \$9,000,000.00 in ten years.

Decreasing the death rate 75 per cent., the conservative estimate which Professor Fisher says is the percentage of preventable deaths from this cause, the saving to the consumptives themselves would be \$1,687,500.00 yearly, or \$16,875,000.00 for a period of ten years.

Taking the death rate again of 750 for the County, and \$2,000.00 which, on the basis of our calculation, is the loss to others than the consumptive by reason of his death, we find that:

The yearly loss to others than the consumptive himself is \$1,500,000.00, or \$15,000,000.00 for a period of ten years.

## LOSS TO OTHERS THAN THE CONSUMPTIVE.

Decreasing the death rate 10 per cent. would save to others than the consumptive \$150,000.00 yearly, or \$1,500,000.00 for a period of ten years.

Decreasing the death rate 20 per cent. would be a saving to others than the consumptive of \$300,000.00 annually, and for a period of ten years \$3,000,000.00.

Decreasing the death rate 40 per cent. would amount to a saving to others than the consumptive of \$600,000.00 yearly, or for a period of ten years of \$6,000,000.00.

Decreasing the deaths from this disease 75 per cent., the conservative estimate of Dr. Fisher, would amount to a saving of \$1,125,000.00 yearly to others than the consumptive, and to \$11,250,000.00 for a period of ten years.

In estimating these deaths to have the economic value of \$5,000.00, the non-workers have been included, the man's wife and dependent members of his family as having to him and to the community an economic value, as Professor Fisher says, "The man who spends a great deal on his family does so because they are so precious to him, and this expenditure, while a cost, is mostly significant as indicating that he conceives a sentimental value which is high, though impossible to express in figures." But if all those who are not wage-earners were eliminated, the net cost would be reduced only one-half. Even if we do this, assuming that the man's wife, sons and daughters have no economic value, we would still have enormous economic waste, to say nothing of the irreparable waste of human life.

## LOSS TO THE CHILDREN.

The most pathetic thing about the unnecessary deaths from tuberculosis is the fact that it deprives the children of almost everything that makes for their future. Deprived of their father and the economic advantages that come from his earning power, to refer to the economic factors only, the child's physical development is stunted, his educational advantages sadly curtailed, and if he survives he is thrown on the world half educated and at a great disadvantage with his fellows in his struggle for a livelihood. An investigation recently made in Troy, N. Y., showed that 52 per cent. of the inmates of the orphan's homes there were orphaned by reason of the death of either one or both the parents from tuberculosis.

## SAVE THIS WASTE OF LIVES AND MONEY.

To make the fight against tuberculosis will, of course, cost money, but, as Professor Fisher says, "The fight against tuberculosis is bound to be costly, and consists, in fact, of substituting money cost invested in hospitals, attendants, and education for the far greater cost now incurred from death and invalidism."

All authorities agree, as stated by one of their number, that "from an economic point of view, the investment in isolation hospitals for incurables is at present probably the most profitable method of spending money for reducing the cost of tuberculosis."

"That tuberculosis may be practically eradicated is evidenced by the fact that the mortality varies so greatly in different communities, and is declining in almost all."

Probably the most striking paper of all those read at the International Conference on Tuberculosis was the one by Newsholme of England, in which he showed from an examination of the mortality records of Europe and America, that the decline in the death rate from tuberculosis had been exactly proportionate to the number of hospital beds provided.

Hospitals for incipents,—for the early cases,—to cure those whom it is possible to cure. Hospitals for the advanced, to make their declining days easier, and to save the rest of the community from infection are the two great needs.

Dr. Morris Letulle truly says, "The consumptive is made, not born." In our modern congested life in industry and housing; in our failure to properly protect the well, we have made the consumptive. Will we do what we can to stop the spread of this disease and undo the evil we have done?



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